erlotinib). Efficacy data were based on the TORCH and TAX317 randomised controlled trials. Cost data were obtained from NHS Reference Costs, British National Formulary list prices and other publically-available sources. **RESULTS:** In the base-case analysis, the estimated incremental cost-effectiveness ratio exceeded the NICE willingness-to-pay threshold of £20,000 per quality-adjusted life year gained. Univariate and probabilistic sensitivity analyses suggested the results were robust to parameter changes, showing greatest sensitivity to variation in overall survival parameters. **CONCLUSIONS:** Our model suggests that, from the perspective of the UK NHS, an EGFR-TK mutation status-guided treatment strategy across first- and second-line treatment of NSCLC is not cost-effective compared with a strategy not dependent on mutational status.

PCN124

COMPARATIVE COST-EFFECTIVENESS STUDY OF MODERN RADIATION THERAPIES IN HUNGARY FOR LOCALIZED PROSTATE CANCER

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OBJECTIVES: The introduction of innovative medical devices with high investment and operational costs is often delayed in countries with severe resource constraints. Cost-effectiveness analysis can help decision-makers to understand the economic value of such technologies. The purpose of our study was to compare the cost-effectiveness of two modern radiation therapy techniques, the stereotactic body radiation therapy (SBRT) and intensity-modulated radiation therapy (IMRT) compared to the 3-dimensional conventional radiation therapy (3DCRT) for treatment of low- to intermediate-risk prostate cancer in Hungary. **METHODS:** A Markov model was constructed with the following disease states of a 65-year-old patient with organ confined prostate cancer: no evidence of disease after radiation therapy, hormone therapy, chemotherapy, death. Transition probabilities were calculated based on the international literature for SBRT, IMRT and 3DCRT. Utility values for each health state were obtained from publically available secondary sources. Costs in the model were calculated based on the Hungarian Health Insurance Fund rates, and were converted to EUR by applying actual exchange rates (1 EUR = 305 HUF). Analysis was conducted from payer perspective for 65-year-old patients over 10 years time horizon. **RESULTS:** Based on preliminary calculations the expected mean cost of patients undergoing SBRT, IMRT and 3DCRT were 2,201 EUR, 5,704 EUR and 11.549 EUR respectively. Expected QALYs were 6.00 for SBRT, 5.8 for IMRT and 3.9 for 3DCRT. Compared to 3DCRT, both IMRT and SBRT were less costly and resulted in more health gain. **CONCLUSIONS:** The modern SBRT and IMRT are not only cost-effective compared to the conventional 3DCRT but also provide a great cost saving potential for the Hungarian health care system and may improve access to radiation and quality of life for patients. Appropriate financial incentives in the DRG system should support the uptake of cost-effective hospital technologies in Hungary.

PCN125

SYSTEMATIC CRITICAL REVIEW OF ECONOMIC EVALUATIONS OF RITUXIMAB, ADDED TO CONVENTIONAL CHEMOTHERAPY REGIMEN IN THE TREATMENT OF PATIENTS WITH CHRONIC LYMPHOCYTIC LEUKEMIC REFRACTORY

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OBJECTIVES: To review the cost-effectiveness studies of chronic lymphocytic leukemia (CLL) treatment, in combination and in comparison with fludarabine and cyclophosphamide chemotherapy (R-FC) in refractory patients or patients who had been previously treated. **METHODS:** Search and analysis of scientific evidence: the basics of The Cochrane Library, Centre for Reviews and Dissemination (CRD), Embase, Lilacs, Database of the Brazilian Network for Technology Assessment (SISREBRATS), and MEDLINE via PubMed were searched. Aiming to meet economic evaluations (AVE), or evaluations of health technologies (ATS), comparing schemas cyclophosphamide and fludarabine (CF) and the same plus Rituximab (R-FC). Studies were only selected in second-line treatment for CLL. **RESULTS:** Two economic evaluations studied the treatment of patients with refractory or relapsing disease (R-FC vs FC). In the study, 24% had improvement in progression-free survival outcome ($p < 0.05$) in the R-FC, with more patients achieving partial or complete response in this group (61% vs 49%, $p < 0.05$). There was no statistically significant difference in overall survival. The Rituximab caused more adverse effects, but values of statistical tests for these outcomes are not presented. In a technology assessment conducted by NICE, even with reservations, the drug was recommended in view of the British health care system. **CONCLUSIONS:** There is significant uncertainty in the relevant outcomes for stages of refractory or relapsing disease. Few clinical trials evaluating the effectiveness of Rituximab in patients with CLL, which demonstrate no impact on overall survival, were found. In addition to the significant increase in costs for managing the disease.

PCN126

WHAT IS THE MOST COST-EFFECTIVE STRATEGY FOR TREATING CHRONIC MYELOID LEUKEMIA AFTER IMATINIB LOSES PATENT EXCLUSIVITY IN EUROPE?

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OBJECTIVES: To analyze the cost-effectiveness of treating all chronic-phase chronic myeloid leukemia (CML) with imatinib initially compared to physician-choice between imatinib or the second-generation tyrosine kinase inhibitors (TKIs) dasatinib or nilotinib. Imatinib will lose patent exclusivity between 2015-2016 and its price is expected to drop 60-90% within one year throughout Europe. **METHODS:** A Markov model simulating "step-therapy" compared to "physician-choice" in treating CML in 2015 through 5 years. The model assumes a European societal perspective. In both approaches, if initial treatment fails, patients are switched to a second-generation TKI. Patients are assumed to switch if they fail to meet efficacy endpoints: complete cytogenetic response (CCyR) or major molecular response (MMR). The model assumes stabilized prices of second-generation TKIs, but discounts the price of imatinib: 100% for first 6-months; 60-80% for second 6-months; and 10-30% thereafter. For each drug, tolerance, efficacy and the probabilities of treatment choice, switching and failure were drawn from published clinical trials. Quality-adjusted life years (QALYs) were based on U. K. preference weights (Szabo et al. 2010). According to Hoyle et al. (2011), direct medical costs per patient were: £20,244 for imatinib; and ~£30,000 for dasatinib and nilotinib. Additional costs included patient monitoring and allogeneic transplantation. Costs and QALYs were discounted at 3% (British Pounds Sterling (£); 2013). Sensitivity analyses tested parameters for impact on results at a willingness-to-pay of £50,000/QALY. **RESULTS:** Step-therapy costs less and offers clinically-equivalent utility (£62,388; 2.864 QALYs) compared to physician-choice (£71,268; 2.879 QALYs), at an ICER of £592,000/QALY. The results are robust to changes based on univariate analyses of each parameter. Multivariate probabilistic sensitivity analyses found step-therapy cost-effective in 99.9% of 10,000 Monte Carlo simulations. **CONCLUSIONS:** When imatinib loses patient protection between 2015-2016 throughout Europe, it will be the cost-effective initial treatment strategy for CML compared to second-generation TKIs.

PCN127

LITERATURE REVIEW OF DECISION-ANALYTICAL MODELS USED IN THE ECONOMIC EVALUATION OF EMPIRICAL/TARGETED ANTIFUNGAL TREATMENTS FOR INVASIVE FUNGAL INFECTIONS

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BACKGROUND: Invasive fungal infections (IFIs) are an important cause of morbidity and mortality in immunocompromised patients. Based on the pathogen identification status, either empirical (without diagnosis) or targeted (with diagnosis) antifungal therapy is administered to symptomatic patients (e.g. with fever). Several antifungal agents are available and their cost-effectiveness is often evaluated using decision analytic models (DAMs). **OBJECTIVES:** The objective was to review all published DAMs used in economic evaluations of empirical/targeted antifungal treatments for IFIs. This approach is novel as previous reviews were either pathogen or agent-specific. **METHODS:** A review was conducted in MEDLINE/EMBASE to identify all economic evaluations that included DAMs published until 1-1-2014. Previous reviews were checked for additional studies. Non-English and studies of prophylactic treatment were excluded. Data extracted included: population, indication, comparators, model structure, time horizon, outcomes, events, year, country, and sponsorship. **RESULTS:** Overall, 24 published economic evaluations including a DAM were identified. 54% (n=13) were for targeted treatments and the remaining (n=11) for empirical treatments. 62% of the DAMs on targeted treatments (n=8) focused on invasive pulmonary aspergillosis and the remaining 38% (n=5) on invasive candiasis/candidemia. The majority (73%, n=8) of DAMs evaluating empirical treatments focused on patients with persistent fever/febrile neutropenia. Lipid formulation amphotericin-B was a comparator in 46% (n=11) of the studies, followed by caspofungin in 42% (n=10) and voriconazole in 42% (n=10). 92% of the DAMs (n=22) included only a decision tree, whereas the remaining 8% (n=2) embedded a lifetime Markov model. The majority (54%, n=13) had a hospital perspective and time horizon of less than 12 weeks (54%, n=14). Only one study utilized real-world data. **CONCLUSIONS:** There are major differences in the modeling approach, time horizon, comparator (s), treatment sequences and outcomes of published economic evaluations in IFI. A list of minimal, consensus-based methodological and structural requirements for DAMs on antifungal treatments of IFIs, elicited from key experts is needed.

PCN128

EXPANSION OF THE NORWEGIAN HPV VACCINATION PROGRAM

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OBJECTIVES: To evaluate the cost-effectiveness of expanding the Norwegian HPV vaccination program to catch-up females and 12 years old boys. **METHODS:** We systematically searched the literature for randomized clinical trials (RCTs) that examined the effect of HPV vaccines on cancer mortality and incidence, precancerous stages and serious adverse events. We assessed selected publications for potential risk of bias, and the overall quality of the evidence for each outcome using GRADE. We adapted a published economic model to the Norwegian setting with respect to incidence of HPV-related outcomes, costs and quality adjusted life years (QALYs) lost from HPV-related diseases. The cost utility analysis reported results in Euros/QALY gained in both a public health budget and a societal perspective. **RESULTS:** We included 46 publications reporting on 13 RCTs for young women, and 3 on 2 RCT for boys (maximum follow-up period: three-four years). We found a borderline protective effect of HPV catch-up vaccination on all CIN2+, with a pooled risk ratio (RR) of 0.80 (95% CI: 0.62-1.02) for a follow-up period of 4 years. HPV catch-up vaccination was associated with a reduction in VIN2+ and VaIN2+ lesions, and genital warts. No difference in risk of serious adverse events was seen in vaccinated participants versus unvaccinated women (pooled RR of 0.99 (0.91-1.08)). We are currently reviewing the studies on boys. From a public health budget perspective, catch-up vaccination led to higher costs and health gains and an ICER=70371€. From a societal perspective, the incremental costs were lower, resulting in an ICER=67365€. **CONCLUSIONS:** This systematic review indicates that a HPV catch-up vaccination could be beneficial and cost-effective for young women. The long-term effect of such a vaccination, and its effect on cancer incidence and mortality is still unclear.

PCN129

COST-EFFECTIVENESS OF RADICAL PROSTATECTOMY, RADIATION THERAPY AND ACTIVE SURVEILLANCE FOR THE TREATMENT OF LOCALIZED PROSTATE CANCER – A CLAIMS DATA ANALYSIS

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